

REMARKS

Claims 1-9 are pending in the subject applications. Favorable reconsideration in light of the remarks which follow is respectfully requested.

35 U.S.C. §103 Rejections

Claims 1-9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP 07026212 A either individually, or in view of JP 11021519 A. In addition to the reasons set forth in Paper Nos. 3, 5 and 8, the Office further states:

With respect to Applicants' argument that "the present invention focuses on and solves specific problems with polyolefin, while the JP'212 reference focuses on a very different problem" (Response, page 3, bottom paragraph), the Examiner notes that both JP'212 and the instantly claimed invention are directed to "surface protective film" for automotive, and both are focused on the weathering resistance of the film, Applicants' argument to the contrary notwithstanding.

With respect to Applicants' response arguing that "There is absolutely no motivation in the JP'212 reference regarding the selection of a polyethylene from a wide range of polyolefins named" (Response, page 4, third paragraph), the Examiner notes that Applicants admitted that JP '212 teaches that "selection of materials in the polyolefin system resin layer (a). ...includes a polyethylene..." (Response, page 4, first paragraph). As such, the teachings of JP '212 clearly encompass the instantly claimed invention,

With respect to Applicants' argument that "there is no motivation in the JP'212 reference regarding the selection of an ethylene/propylene copolymer in layer B" (Response, page 5, top paragraph), the Examiner reiterates (see page 2 of Paper No. 12) that it is noted that JP'212 expressly teaches that, for the top titanium oxide containing layer, suitable polyolefin materials include various polyolefin copolymers, such as ethylene-alpha olefin copolymer, etc. (translated JP'212 [0010]), which inherently encompasses ethylene/propylene copolymer. Also, JP'212 appears to teach that the polyolefin materials for the top layer can also be used for the second polyolefin layer (translated JP '212 [0015]). As such, the teachings of JP'212 clearly encompass the instantly claimed invention.

With respect to Applicants' argument that "JP'212 reference does not expressly teach a pressure sensitive adhesive sheet wherein layer A contains a polyethylene polymer..." (Response, page 5, second full paragraph), the Examiner notes that Applicants' argument is not persuasive since it assumes that an anticipation rejection, not an obviousness rejection, has been made. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Applicants respectfully traverse this rejection.

In claim 1, Applicants claim a pressure-sensitive adhesive sheet for surface protection comprising a three-layered film in which a layer A, a layer B and a layer C have been laminated in this order and a pressure-sensitive adhesive layer on layer C. Layer A contains a polyethylene polymer in an amount of at least 60 % by weight based on the total weight of layer A. Layer B contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B. Layer C contains a hydrogenated styrene/diene hydrocarbon random copolymer in an amount of at least 10 % by weight based on the total weight of the layer C.

Applicants have found that prior pressure sensitive adhesive sheets use * * * as a substrate a polypropylene type film in view of its strength, flexibility, thermal resistance, etc. However, polypropylene type films undergo chalking when subjected to long outdoor exposure to cause dusting at peeling to litter the surfaces of car bodies with white powder particles, disadvantageously. In addition, polypropylene type films develop strong scorching odor due to corona discharge treatment applied to them for securing adhesion with a release agent, etc. which remains considerably after pressure-sensitive adhesive sheets are completed. This gives rise to problems of injuring health of operators that they are suffered from headache and the like induced by such odor if they carry out application for an extended period. (Page 1, line 24 – page 2, line 3)

Thus, the present invention focuses on and solves a specific problem with polyolefin. In particular, the present invention focuses on providing a pressure sensitive adhesive sheet for surface protection which has excellent weathering resistance and which undergoes neither chalking nor fracture in the substrate on peeling, even after prolonged outdoor exposure, and which develops less corona odor.

According to the JP '212 reference, the selection of materials in the polyolefin system resin layer (a), (which corresponds to layer A of the present invention) includes a polyethylene (low density, inside density, high density, straight chain low density) and ethylene-alpha olefin copolymer, and ethylene-ethyl acrylate copolymer, an

ethylene vinylacetate copolymer, an ethylene-methyl methacrylate copolymer, an ethylene-n butyl acrylate copolymer, polypropylene (a homopolymer, a random copolymer, block copolymer)(see paragraph 0010). According to JP '212, numerous polyolefins can be used, as long as titanium oxide has been incorporated into it.

On the other hand, a polyolefin of layer (A) of the present invention must be a polyethylene in order to provide the characteristics of the present sheets.

The JP'212 reference, on the other hand, merely lists numerous polyolefins and does not provide any motivation for choosing any specific polyolefin. While polyethylene may be listed among many other alternatives, there is no motivation, absent Applicants' disclosure, to select polyethylene from the list of various polyolefins in the JP'212 reference.

Nonetheless, even if polyethylene is selected, there is no teaching or suggestion in JP'212 that layer A contains a polyethylene polymer in an amount of at least 60 % by weight based on the total weight of layer A. Further, Applicants disagree with the Office's assertion that "discovering the optimum or workable ranges involves only routine skill in the art." It is well established that particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); MPEP §2144.05. Applicants respectfully submit that the amount of polyethylene polymer in layer A is not recognized as a result-effective variable. Rather, the selection of polyethylene polymer in layer A, from among the various other possibilities is not suggested. Further, the use of any particular amount of polyethylene polymer in layer A is not discussed as providing any advantages. Thus, it cannot be said that the amount of polyethylene polymer in layer A can be determined by routine experimentation.

Further, even if layer A of JP'212 is selected to be in accordance with Applicants' teaching, JP'212 still does not describe or suggest Applicants layer B in

combination with Applicants' layer A. In particular, Applicants teach a layer A that contains a polyethylene polymer in an amount of at least 60 % by weight based on the total weight of layer A and a layer B that contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B. Thus, Applicants teach that layers A and B are different. This is required in order to resolve the problems present with prior files and to provide the excellent properties obtained by the present adhesive sheets. By using an ethylene/propylene copolymer as a polyolefin of layer (B), the produced sheet has excellent heat-resistance, strength, modulus, and application workability. On the other hand, according to JP'212, with respect to the selection of a material in the polyolefin resin independent layer (b) (which corresponds to layer B of the present invention), the same polyolefin that is used in layer (a) is selected for layer (b). Indeed, in the Examples, the same polyolefin used in layers (a) is always used in layer (b) as well. Thus, even if layer (a) of JP'212 is selected in accordance with Applicants' teaching, JP'212 utilizes, as a layer (b), the same polyolefin as used in layer (a). Thus, based on the teaching of JP'212, there is no teaching or motivation to provide Applicants' combination of layers A and B because, while Applicants teach a layer (A) and layer (B) that must be different from each other, JP'212 teach a layer (a) and a layer (b) that are the same.

Nonetheless, even if ethylene/propylene copolymer is selected for layer B, there is no teaching or suggestion in JP'212 that layer B contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of layer B. Further, Applicants disagree with the Office's assertion that "discovering the optimum or workable ranges involves only routine skill in the art." It is well established that particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); MPEP §2144.05. Applicants respectfully submit that the amount of ethylene/propylene copolymer in layer B is not recognized as a result-effective variable. Rather, an ethylene/propylene copolymer is not even specifically listed as a possibility for layer B. Further, even if an ethylene/propylene copolymer is selected because, as asserted by

the Office, "ethylene-alpha olefin copolymer inherently encompasses ethylene/propylene copolymer", the use of any particular amount of ethylene/propylene copolymer in layer B is not discussed as providing any advantages. Thus, it cannot be said that the amount of ethylene/propylene copolymer in layer B can be determined by routine experimentation.

Applicants further note that if the polyolefins listed in JP '212 are used as layer (B) in the present invention, various problems will occur. For example, if a polyethylene is used, the sheet will show poor heat-resistance so that it is difficult to dry at the time of solution coating, the sheet will have a poor strength such that tears will occur when it is used, and it will have a low modulus (too soft) such that it is inferior in application properties. The same problems with modulus and strength will occur for ethylene/ethylacrylate, ethylene/vinyl acetate, ethylene/methacrylate, ethylene/butylacrylate.

Further, as clearly demonstrated in the attached Declaration Under 37 CFR 1.132, the adhesive sheets in accordance with JP'212 do not possess the excellent surface protective properties exhibited by the films of the present invention. (Applicants note that this Declaration is not executed and that an executed Declaration will follow upon receipt by the undersigned) For example, as demonstrated in Tables 3 and 4, the adhesive sheets of the present invention show no adhesive transfer (i.e. no peeling of adhesive layer), while the adhesive sheets of JP'212 show adhesive transfer (i.e. adhesive layer peeled off). Further, weathering resistance, particularly UV-ray cutting ability, of the present invention are excellent as compared to that of JP'212. Further, as demonstrated in Table 7, the present adhesive sheets exhibited no substrate failure at the time of peeling, while the adhesive sheets in accordance with JP'212 exhibited substrate failure at the time of peeling in some cases. Thus, it is clearly demonstrated that the adhesive sheets taught by the present invention provide significant improvements and are superior to those of JP'212.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP 2142.

As set forth above, the JP '212 reference does not teach or suggest all the claim limitations. Specifically, the JP '212 reference does not explicitly teach a pressure-sensitive adhesive sheet wherein layer A contains a polyethylene polymer in an amount of at least 60 % by weight based on the total weight of layer A and layer B contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B. In particular, as set out above, while the present invention teaches a sheet wherein a layer (A) and layer (B) are different from each other, JP'212 teach a sheet wherein a layer (a) and a layer (b) are the same. Further, the sheets of the present invention demonstrate superior properties as compared to those of JP'212 as demonstrated in the attached Declaration.

Further, the Office does not state that JP '212 explicitly teaches or suggests these limitations. Rather, the Office relies on an inherency argument and asserts that:

JP '212 teaches that the second layer, which corresponding to the layer B of the instant claimed invention, is a layer comprising polyolefinic resin alone (Abstract). As such, JP '212 inherently encompasses polyolefinic copolymers, such as ethylene/propylene and ethylene/butene-1 copolymers.

Applicants respectfully submit that there is no motivation in the JP '212 reference regarding the selection of an ethylene/propylene copolymer in layer (b). Rather, JP'212 teaches that layer (a) and (b) are the same. Thus, if JP'212 utilized, for layer (a), a polyethylene polymer as taught by Applicants, then in accordance with the teachings of JP'212, layer (b) would not be chosen to be an ethylene/propylene copolymer. On the other hand, even if an ethylene/propylene copolymer is used as layer (b), JP'212 teaches that layer (a) is the same as layer (b) and, thus, layer (a)

would also be an ethylene/propylene copolymer. Thus, JP'212 would still not teach Applicants combination of layer (A) and layer (B).

Applicants respectfully submit that it is well-established that "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); MPEP 2112.

In this case, JP '212 merely indicates that, as only one of various other possibilities, ethylene-alpha olefin copolymer can be used as layer (b). However, an ethylene/propylene copolymer is not mentioned. Further, nothing in the JP '212 reference teaches or suggests that layer (b) contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B, much less that it necessarily contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B. Further, based on the JP'212 reference, layer (a) and layer (b) are the same and, thus, if layer (a) is in accordance with the present invention (polyethylene polymer), then layer (b) would be selected accordingly to also be a polyethylene polymer. Further, as clearly demonstrated in the attached Declaration, the adhesive sheets of the present invention possess properties that are far superior to those exhibited by the sheets of JP'212 and, thus, it is shown that the properties of the present sheets are not inherent in JP'212. In sum, JP'212 does not necessarily possess the properties of Applicants' sheets and, thus, the Office cannot properly sustain a rejection based on inherency.

As clearly set out above, JP '212 does not teach or suggest all the claim limitations. In particular, JP '212 fails to teach or suggest a pressure-sensitive adhesive sheet wherein layer A contains a polyethylene polymer in an amount of at least 60 % by weight based on the total weight of layer A and layer B contains an ethylene/propylene copolymer in an amount of at least 50 % by weight based on the total weight of the layer B, as required by Applicants' claim 1. Further, there is no

suggestion or motivation to modify the references to teach all of Applicants' claim limitations absent hindsight reasoning using Applicants' own disclosure.

JP 11021519 A does not remedy these deficiencies. JP'519 is cited by the Office for the assertion that, while JP'212 does not teach the exact amount of UV absorbers and titanium oxide in each layer, that this is well known to one of ordinary skill in the art. As asserted by the Office in Paper No. 3, "JP'519 is directed to a polyolefin based surface protective film, and teaches that various additives such as UV absorbers* * * pigments, fillers, etc. can be added to the backing and adhesive layers." However, JP'519 does not remedy the deficiencies of JP'212 as outlined above. In particular, JP'212 does not teach or suggest Applicants' combination of layer A and layer B. JP'519 describes a surface protective film having the following layers, respectively: a surface layer based on a resin made from polyethylene, a base layer made of a resin based on polypropylene, and a pressure sensitive adhesive layer based on a copolymer of a 1-12C α -olefin. However, JP'519 does not describe or suggest a layer A containing at least 60 wt% polyethylene, a layer B containing at least 50 wt% ethylene/propylene as taught by Applicants. Further, JP'519 does not describe or otherwise suggest a pressure-sensitive adhesive sheet that includes a layer that contains a hydrogenated styrene/diene hydrocarbon random copolymer in an amount of at least 10 % by weight based on a total weight of the layer C, as taught by Applicants.

Further, as clearly demonstrated in the attached Declaration Under 37 CFR 1.132, the adhesive sheets in accordance with JP'519 do not possess the excellent surface protective properties exhibited by the films of the present invention. For example, as demonstrated in Tables 8, the adhesive sheets of JP'519 are difficult to peel of and result in substrate failure, while the present adhesive sheets are not difficult to peel off and do not result in substrate failure. Further, the adhesive sheets of JP'519 show a significant color difference ΔE (after peeling), while the present adhesive sheets show little color difference. Thus, it is clearly demonstrated that the adhesive sheets taught by the present invention provide significant improvements and are superior to those of JP'519 and, further, that the properties of the present sheets would not be inherent in JP'519.

Accordingly, claim 1 is patentable over the JP 07026212 A and JP 11021519 A references. Claims 2-9 depend from claim 1 and, likewise, are patentable over the JP 07026212 A and JP 11021519 A references.

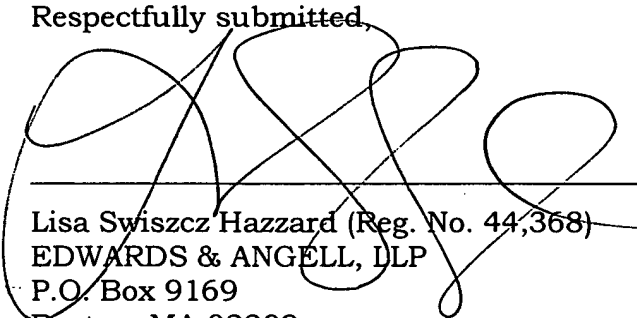
CONCLUSION

Reconsideration and allowance of claims 1-9 is respectfully requested in view of the foregoing discussion. This case is believed to be in condition for immediate allowance. Applicants respectfully requests early consideration and allowance of the subject application.

Applicants conditionally petition for an extension of time to provide for the possibility that such a petition has been inadvertently overlooked and is required. As provided below charge Deposit Account No. **04-1105** for any required fee.

Should the Examiner wish to discuss any of the amendments and/or remarks made herein, the undersigned attorney would appreciate the opportunity to do so.

Respectfully submitted,



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